	Application No.	Applicant(s)
Notice of Allowability	09/886,454	SOKOLOV ET AL.
	Examiner	Art Unit	
	Satish S. Rampuria	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *12/23/2005*.

2. ☒ The allowed claim(s) is/are *5,8,10-17,21 and 24 [renumbered as 1-12]*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All   b) ☐ Some*   c) ☐ None   of the:
   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of
      Paper No./Mail Date _____ .
   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *3/16/06* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

DETAILED ACTION

This action is in response to the amendment filed on Dec 23, 2005.

Claims 5,8,10-17,21 and 24 are allowed.

Claims 1-4, 6-7, 9, 18-20, 22-23 and 25-27 are cancelled by the Applicant.

Claims 5, 8, 15 and 21 are amended by the Applicant.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview (See attached interview summary) with the attorney of the record, Ramin Mahboubian (Registration No. 44,890) on March 16, 2006.

IN THE CLAIMS

Please amend claims 5, 8,15 and 21 as follows.

Claim 5. (Currently Amended),

At line 1, delete "A computer readable medium" and add --A computer readable medium stored in a computer system--.

At line 12 of the claim delete "can be" and add --is--.

At line 16 of the claim delete "can be" and add --is--.

At line 18 of the claim delete "can be" and add --is--.

At line 23 of the claim delete "can be" and add --is--.

Claim 8. (Currently Amended),

At line 11 of the claim delete "can be" and add --is--.

At line 15 of the claim delete "can be" and add --is--.

At line 19 of the claim delete "can be" and add --is--.

Claim 15. (Currently Amended),

At line 15 of the claim delete "can be" and add --is--.

At line 18 of the claim delete "can be" and add --is--.

At line 23 of the claim delete "can be" and add --is--.

Claim 21. (Currently Amended),

At line 2 of the claim delete "can".

At line 2 of the claim delete "receive" and add --receives--.

At line 11 of the claim delete "that a method should be invoked" and add --to invoke said
method--.

At line 14 of the claim delete "can be" and add --is--.

At line 17 of the claim delete "that an instance field should be accessed" and add --to
access said instance field--.

At line 18 of the claim delete "can be" and add --is--.

At line 23 of the claim delete "can be" and add --is--.

--END--

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

The cited prior art (Crelier [6,15,703] and Brown [6,237,043]) taken alone or in combination fail to teach, in combination with the other claimed limitations, *computer program code for allocating said first reference to an internal class representation inside said virtual machine, wherein said internal class representation is a representation inside said virtual machine for a class (or class file) of said object of said object-based programming environment, wherein said internal class representation describes-one or more methods associated with said object and wherein said first reference is used to invoke said one or more methods; computer program code for allocating said second reference to instance fields of said object which is resented by said object representation inside said virtual machine, wherein said second reference is used to access one or more instance fields of said object at runtime; computer program code for storing a hash key that is used to identify the object, wherein said hash key is the memory address of said first reference; wherein said second reference is a reference to an array of references that references each of said instance fields of said object, wherein each reference in said array of references is a reference to an instance field of said object, and wherein each of said instance fields is accessed by indexing said array of references; and wherein said internal class representation includes a header of a predetermined size, and wherein a method table associated with said object is allocated immediately after said header* as recited in the independent claims 5 and 8.

The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, *identifying an internal object representation for said object inside said*

virtual machine, wherein said internal object representation includes a first reference and a

second reference; determining whether to invoke a method associated with said object or access

an instance field associated with said object; using said first reference in said internal object

representation to locate an appropriate internal class representation inside said virtual machine

when said determining determines to invoke said method, wherein said internal class

representation is representation inside said virtual machine of a class (or class file) associated

with said object of said object-based computing environment, and wherein said internal class

representation includes a method table which is used to invoke one or more methods associated

with said object; and using said second reference in said internal object representation to locate

one or more instance fields of said object when said determining determines to access said

instance field , wherein said second reference is used to directly access said one or more

instance fields of said object, wherein said second reference is a reference to an array of

references that references each of said instance fields of said object, wherein each reference in

said array of references is a reference to an instance field associated with said object, and

wherein each of said instance fields is accessed by indexing said array of references as recited in

the independent claims 15 and 21.

Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for
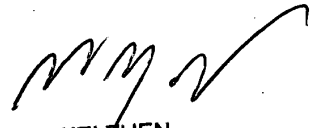
Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Satish S. Rampuria** whose telephone number is **(571) 272-3732**. The examiner can normally be reached on **8:30 am to 5:00 pm** Monday to Friday except every other Friday and federal holidays. Any inquiry of a general nature or relating to the status of this application should be directed to the **TC 2100 Group receptionist: 571-272-2100.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Wei Y. Zhen** can be reached on **(571) 272-3708**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Satish S. Rampuria
Patent Examiner/Software Engineer
Art Unit 2191

WEI ZHEN
SUPERVISORY PATENT EXAMINER